

C

**APPENDIX C**

**SELECTED LOGS OF BORINGS AND TRENCHES**

**FROM PACIFIC SOILS ENGINEERING**

**FOR**

**MEADOWOOD**  
**(PANKEY RANCH)**  
**SAN DIEGO COUNTY, CALIFORNIA**

**PROJECT NO. 06931-42-01**

# GEOTECHNICAL BORING LOG

SHEET 1 OF 2

PROJECT NO. 400735  
DATE STARTED 07/18/00  
DATE FINISHED 07/18/00  
DRILLER Ledezma Drilling  
TYPE OF DRILL RIG Bucket Auger

PROJECT NAME Rottman/Pankey Parcels  
GROUND ELEV. 275.0  
GW DEPTH (FT)  
DRIVE WT.  
DROP  
BORING DESIG. BA-1  
LOGGED BY PDT

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOW COUNT	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT. URATION (%)	OTHER TESTS
275					SM	<b>ALLUVIUM (Qal):</b> SILTY SAND, fine- to medium-grained, light reddish brown, dry, loose.				
						@ 3.0 ft. slightly moist, moderately dense; minor visible porosity.				
5	270	D	Push		SM	<b>TERRACE DEPOSIT (Qt):</b> SILTY SAND, fine- to medium-grained, reddish brown, moist to very moist, dense; trace of coarse sand; clay films on grains and angular blocky ped faces.	6.1	106	28	
		B				@ 8.0 ft. <u>wet</u> to <u>saturated</u> .				
10	265	D	Push (no recovery)							
15	260	D	2				16.4	118	98	
20	255	D	(no recovery)							
250						0.0 - 24.0 ft. Drive Weight = 3,548 lbs. continued.				

## SAMPLE TYPES:

- ☒ DRIVE (RING) SAMPLE  
☐ SPT (SPLIT SPOON) SAMPLE  
☐ BULK SAMPLE    ☐ TUBE SAMPLE

▼ GROUNDWATER



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**PI ATE A-1**

# GEOTECHNICAL BORING LOG

SHEET 2 OF 2

PROJECT NO. 400735  
 DATE STARTED 07/18/00  
 DATE FINISHED 07/18/00  
 DRILLER Ledezma Drilling  
 TYPE OF DRILL RIG Bucket Auger

PROJECT NAME Rottman/Pankey Parcels  
 GROUND ELEV. 275.0  
 GW DEPTH (FT)  
 DRIVE WT.  
 DROP

BORING DESIG BA-1  
 LOGGED BY PDT

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOW COUNT	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT. URATION (%)	OTHER TESTS
250		D	1			<u>TERRACE DEPOSIT</u> (Qt): Continued.	18.3	113	97	
30	245					@ 33.0 ft. difficult digging; began using rippers.				
35	240	D	10 for 2" (no recovery)			<u>GRANITIC ROCK</u> (Kgr): Unable to determine if this contact is between Qt and Kgr, or Kgr boulder.  Refusal @ 36.0 ft. 25.0 - 47.0 ft. Drive Weight = 2,577 lbs.  REFUSAL @ 36.0 FT. <u>WATER AS NOTED</u> NO CAVING				

SAMPLE TYPES:

- ☒ DRIVE (RING) SAMPLE  
☐ SPT (SPLIT SPOON) SAMPLE  
☐ BULK SAMPLE    ☐ TUBE SAMPLE

▼ GROUNDWATER



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PLATE A-1

# GEOTECHNICAL BORING LOG

SHEET 1 OF 3

PROJECT NO. 400735  
 DATE STARTED 07/18/00  
 DATE FINISHED 07/18/00  
 DRILLER Ledezma Drilling  
 TYPE OF DRILL RIG Bucket Auger

PROJECT NAME Rottman/Pankey Parcels  
 GROUND ELEV. 330.0  
 GW DEPTH (FT)  
 DRIVE WT.  
 DROP  
 BORING DESIG. BA-2  
 LOGGED BY PDT

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOW COUNT	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT. URATION (%)	OTHER TESTS
330					SM	<b>TERRACE DEPOSIT</b> (Qt): SILTY SAND, fine- to medium-grained, dark reddish brown, slightly moist, dense; trace of coarse sand; abundant clay films on angular blocky ped faces.				
5	325	D	3				14.3	121	99	
		B								
10	320	D	4		SM	@ 8.0 ft. SILTY SAND, fine- to medium-grained, reddish brown, moist, dense; non-cohesive, trace of coarse sand.	11.2	124	85	
						@ 10.5 ft. 1.5 ft. thick SAND, medium- to coarse-grained, moist, very loose; <u>minor caving</u> ; trace of fine gravel. Discontinued downhole logging.				
15	315	D	5		SM	@ 15.0 ft. SILTY SAND, fine- to coarse-grained, reddish brown, slightly moist, moderately dense; common fine gravel.	11.1	124	82	
20	310	D	5		SP-SM	@ 20.0 ft. SAND, fine- to medium-grained, orange brown, slightly moist, moderately dense; trace of coarse sand; trace of gravel; rare cobble; granular, slightly silty.	4.9	109	24	
305						0.0 - 24.0 ft. Drive Weight = 3,548 lbs. continued.				

## SAMPLE TYPES:

- ☒ DRIVE (RING) SAMPLE  
☐ SPT (SPLIT SPOON) SAMPLE  
☐ BULK SAMPLE    ☐ TUBE SAMPLE

▼ GROUNDWATER



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PLATE A-2

# GEOTECHNICAL BORING LOG

SHEET 2 OF 3

PROJECT NO. 400735  
 DATE STARTED 07/18/00  
 DATE FINISHED 07/18/00  
 DRILLER Ledezma Drilling  
 TYPE OF DRILL RIG Bucket Auger

PROJECT NAME Rottman/Pankey Parcels  
 GROUND ELEV. 330.0  
 GW DEPTH (FT)  
 DRIVE WT.  
 DROP  
 BORING DESIG. BA-2  
 LOGGED BY PDT

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOW COUNT	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT. URATION (%)	OTHER TESTS
305		D	4		SM	<u>TERRACE DEPOSIT</u> (Qt): Continued; SILTY SAND, fine- to medium-grained, reddish brown, slightly moist, dense.	12.4	112	66	
		B								
300		D	7		SM	@ 30.0 ft. SAND, fine- to coarse-grained, orange brown, slightly moist, dense; common gravel.	3.5	109	17	
						@ 33.0 ft. gravel content decreases.				
295		D	4				2.8	109	14	
					ML	@ 37.0 ft. SANDY SILT, fine-grained, reddish brown, slightly moist, stiff; clay surfaces on ped faces.				
290		D	3		CL	@ 40.0 ft. SANDY CLAY, fine- to medium-grained, mottled dark reddish brown and dark gray, slightly moist, very stiff; dark gray (organics??).	15.2	120	98	
		B								
285										
						@ 46.5 ft. water.				
						25.0 - 47.0 ft. Drive Weight = 2,577 lbs.				
						continued.				

## SAMPLE TYPES:

- ☒ DRIVE (RING) SAMPLE  
☐ SPT (SPLIT SPOON) SAMPLE  
☐ BULK SAMPLE    ☐ TUBE SAMPLE

▼ GROUNDWATER



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PLATE A-2


# GEOTECHNICAL BORING LOG

SHEET 3 OF 3

PROJECT NO. 400735  
 DATE STARTED 07/18/00  
 DATE FINISHED 07/18/00  
 DRILLER Ledezma Drilling  
 TYPE OF DRILL RIG Bucket Auger

PROJECT NAME Rottman/Pankey Parcels  
 GROUND ELEV. 330.0  
 GW DEPTH (FT)  
 DRIVE WT.  
 DROP

BORING DESIG. BA-2  
 LOGGED BY PDT

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOW COUNT	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT. URATION (%)	OTHER TESTS
280		D	7		CL-ML	<p><b>TERRACE DEPOSIT</b> (Qt): Continued; SANDY CLAY to SANDY SILT, fine- to medium-grained, mottled dark brown and dark gray, very stiff.</p> <p>48.0 - 51.0 ft. Drive Weight = 1,648 lbs.</p> <p>TOTAL DEPTH 51.0 FT.</p> <p>WATER AS NOTED</p> <p>CAVING AS NOTED</p>	14.5	121	99	

**SAMPLE TYPES:**

- ☐ DRIVE (RING) SAMPLE  
☐ SPT (SPLIT SPOON) SAMPLE  
☐ BULK SAMPLE    ☐ TUBE SAMPLE

☒ GROUNDWATER



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**PLATE A-2**

# GEOTECHNICAL BORING LOG

SHEET 1 OF 2

PROJECT NO 400735  
DATE STARTED 07/18/00  
DATE FINISHED 07/18/00  
DRILLER Ledezma Drilling  
TYPE OF DRILL RIG Bucket Auger

PROJECT NAME Rottman/Pankey Parcels  
GROUND ELEV 340.0  
GW DEPTH (FT)  
DRIVE WT.  
DROP  
BORING DESIG BA-3  
LOGGED BY PDT

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOW COUNT	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT. URATION (%)	OTHER TESTS
340					SC	<b>TERRACE DEPOSIT (Qt):</b> CLAYEY SAND, fine- to medium-grained, dark reddish brown, slightly moist, moderately dense; some coarse sand; clay films on angular blocky ped faces; pinhole porosity.				
5	335	D	3		SM	@ 5.0 ft. SILTY SAND, fine- to medium-grained, dark reddish brown, slightly moist, medium dense; some coarse sand; rare gravel and cobble (Kgr clasts); minor clay films; minor well cemented clasts 3 to 4 inch diameter.	10.5	118	66	
10	330									
15	325	D	6			@ 15.0 ft. minor increase in gravel content.	5.9	120	39	
20	320	B								
315						0 0 - 24.0 ft. Drive Weight = 3,548 lbs. continued.				

## SAMPLE TYPES:

- ☐ DRIVE (RING) SAMPLE  
☐ SPT (SPLIT SPOON) SAMPLE  
☐ BULK SAMPLE    ☐ TUBE SAMPLE

▼ GROUNDWATER



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PLATE A-3



# GEOTECHNICAL BORING LOG

SHEET 2 OF 2

PROJECT NO 400735  
DATE STARTED 07/18/00  
DATE FINISHED 07/18/00  
DRILLER Ledezma Drilling  
TYPE OF DRILL RIG Bucket Auger

PROJECT NAME Rottman/Pankey Parcels  
GROUND ELEV 340.0  
BORING DESIG BA-3  
GW DEPTH (FT)  
LOGGED BY PDT  
DRIVE WT.  
DROP

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOW COUNT	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT. URATION (%)	OTHER TESTS
315		D	12			<b>TERRACE DEPOSIT (Qt):</b> Continued, SILTY SAND, fine- to medium-grained, dark reddish brown, slightly moist to moist, dense; trace of coarse sand; some dense cohesive clasts (weathered Kgb clasts); rare Kgr cobble.	8.4	113	46	
30	310	B				@ 28.0 ft. SILTY SAND, fine- to medium-grained, mottled orange brown and dark gray, slightly moist, dense; some coarse sand.				
					SC	@ 33.0 ft. CLAYEY SAND, fine- to medium-grained, brownish red, slightly moist, dense; trace of coarse sand.				
35	305	D	11		SC-CL	@ 35.0 ft. CLAYEY SAND to SANDY CLAY, fine- to medium-grained, mottled dark gray and red brown, slightly moist, dense to stiff; trace of coarse sand. 25.0 - 36.0 ft. Drive Weight = 2,577 lbs. TOTAL DEPTH 36.0 FT. NO WATER, NO CAVING	11.4	131	97	

## SAMPLE TYPES:

- ☒ DRIVE (RING) SAMPLE  
☐ SPT (SPLIT SPOON) SAMPLE  
☐ BULK SAMPLE ☐ TUBE SAMPLE

▼ GROUNDWATER



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PLATE A-3

# GEOTECHNICAL BORING LOG

SHEET 1 OF 2

PROJECT NO 400735  
 DATE STARTED 07/18/00  
 DATE FINISHED 07/18/00  
 DRILLER Ledezma Drilling  
 TYPE OF DRILL RIG Bucket Auger

PROJECT NAME Rottman/Pankey Parcels  
 GROUND ELEV. 360.0  
 GW DEPTH (FT)  
 DRIVE WT.  
 DROP  
 BORING DESIG. BA-4  
 LOGGED BY PDT

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOW COUNT	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT. URATION (%)	OTHER TESTS
360					SM	<b>TERRACE DEPOSIT (Qt):</b> SILTY SAND, fine- to medium-grained, light orange brown, dry, dense; common coarse sand; visible porosity; minor rootlets (annual grasses); minor cobbles throughout. @ 1.5 ft. angular blocky ped faces.				
5	355					@ 5.0 ft. becomes slightly moist, very dense.  @ 7.0 ft. minor carbonates.				
10	350	D	7			@ 10.0 ft. SILTY SAND, fine- to medium-grained, dark orange brown, slightly moist, very dense; common coarse sand; rare fine to coarse gravel; minor well cemented Qt clasts up to 1 inch diameter.	8.4	124	62	
15	345				SP	@ 14.0 ft. 1.0 ft. thick SAND, medium- to coarse-grained, dark gray, slightly moist, medium dense; trace of silt and fine sand.				
					SM	@ 15.0 ft. SILTY SAND, fine- to medium-grained, dark reddish brown, slightly moist, very dense; common coarse sand.  @ 17.0 ft. silt content increases.				
20	340	D	9		ML	@ 20.0 ft. SANDY SILT, fine- to medium-grained, mottled reddish brown, brown and gray, slightly moist, very stiff; minor carbonates; trace of coarse sand and gravel.  @ 22.0 ft. moist.	13.1	122	93	
335						0.0 - 24.0 ft. Drive Weight = 3,548 lbs. continued.				

**SAMPLE TYPES:**

- ☒ DRIVE (RING) SAMPLE  
☒ SPT (SPLIT SPOON) SAMPLE  
☒ BULK SAMPLE ☐ TUBE SAMPLE

▼ GROUNDWATER



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**PLATE A-4**

# GEOTECHNICAL BORING LOG

SHEET 2 OF 2

PROJECT NO. 400735  
 DATE STARTED 07/18/00  
 DATE FINISHED 07/18/00  
 DRILLER Ledezma Drilling  
 TYPE OF DRILL RIG Bucket Auger

PROJECT NAME Rottman/Pankey Parcels  
 GROUND ELEV. 360.0  
 GW DEPTH (FT)  
 DRIVE WT.  
 DROP  
 BORING DESIG. BA-4  
 LOGGED BY PDT

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOW COUNT	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT. URATION (%)	OTHER TESTS
335		B				<u>TERRACE DEPOSIT</u> (Qt): Continued; very moist; common carbonates.				
						@ 27.0 ft. some highly weathered Kgb clasts.				
						▼ @ 28.0 ft. <u>water</u> . — <i>patches on Kgb!</i>				
30	330	D	9			@ 31.0 ft. refusal - unable to determine if refusal is on boulder or bedrock. 25.0 - 31.0 ft. Drive Weight = 2,577 lbs.	19.5	111	95	
						TOTAL DEPTH 31.0 FT. WATER AS NOTED NO CAVING				

## SAMPLE TYPES:

- ☒ DRIVE (RING) SAMPLE  
☐ SPT (SPLIT SPOON) SAMPLE  
☐ BULK SAMPLE    ☐ TUBE SAMPLE

▼ GROUNDWATER



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PLATE A-4

# GEOTECHNICAL BORING LOG

SHEET 1 OF 3

PROJECT NO 400735  
 DATE STARTED 07/19/00  
 DATE FINISHED 07/19/00  
 DRILLER Ledezma Drilling  
 TYPE OF DRILL RIG Bucket Auger

PROJECT NAME Rottman/Pankey Parcels  
 GROUND ELEV 362.0  
 GW DEPTH (FT)  
 DRIVE WT.  
 DROP

BORING DESIG BA-5  
 LOGGED BY PDT

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOW COUNT	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT. URATION (%)	OTHER TESTS
360					SM	<b>TERRACE DEPOSIT (Qt):</b> SILTY SAND, fine- to medium-grained, dark reddish brown, dry, dense; trace of coarse sand; clay films on angular blocky ped faces; minor porosity; rootlets.				
5						@ 3.0 ft. SILTY SAND, fine- to medium-grained, dark orange brown, dry, medium dense; some coarse sand; trace of fine gravel; minor porosity.				
355						@ 7.0 ft. moderately dense; minor carbonates.				
10		D	5			@ 10.0 ft. SILTY SAND, fine- to medium-grained, brownish orange, dry, moderately dense; minor carbonates; minor visible porosity.	3.9	106	18	
350					GP	@ 11.0 ft. SANDY GRAVEL, coarse-grained, grayish brown, dry, moderately dense; some fine to coarse sand; no cohesion.				
					SM	@ 12.0 ft. SILTY SAND, fine- to medium-grained, brownish orange, slightly moist, dense to very dense; trace of coarse sand; minor carbonates; minor visible porosity.				
15										
345										
20		D	9			@ 23.0 ft. SANDY GRAVEL, coarse-grained, grayish brown, dry, moderately dense; some fine to medium sand; no cohesion.	5.0	124	38	
340						@ 24.0 ft. SILTY SAND, fine- to coarse-grained, brownish orange, slightly moist, dense; trace of gravel.				
					GP	0.0 - 24.0 ft. Drive Weight = 3,548 lbs. continued.				
					SM					

## SAMPLE TYPES

- ☒ DRIVE (RING) SAMPLE  
☐ SPT (SPLIT SPOON) SAMPLE  
☐ BULK SAMPLE    ☐ TUBE SAMPLE

▼ GROUNDWATER



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**PLATE A-5**

# GEOTECHNICAL BORING LOG

SHEET 2 OF 3

PROJECT NO 400735  
DATE STARTED 07/19/00  
DATE FINISHED 07/19/00  
DRILLER Ledezma Drilling  
TYPE OF DRILL RIG Bucket Auger

PROJECT NAME Rottman/Pankey Parcels  
GROUND ELEV. 362.0  
GW DEPTH (FT)  
DRIVE WT.  
DROP  
BORING DESIG BA-5  
LOGGED BY PDT

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOW COUNT	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT. URATION (%)	OTHER TESTS
						<u>TERRACE DEPOSIT</u> (Qt): Continued.				
335					SP	@ 27.0 ft. SANDY GRAVEL, coarse-grained, brownish gray, dry, cohesionless; minor <u>caving</u> ; discontinued downhole logging due to <u>caving</u> .				
30		D	10		ML	@ 30.0 ft. SANDY CLAYEY SILT, fine- to medium-grained, orange, slightly moist, dense; some coarse sand; minor visible porosity; abundant clay films on angular blocky ped faces.	12.9	123	95	
330										
35										
325										
40		D	5		SM	@ 40.0 ft. SILTY SAND, fine- to medium-grained, mottled gray, brown and orange, slightly moist, dense; trace of coarse sand.	10.8	114	61	
320										
45										
315						@ 47.0 ft. SILTY SAND, fine- to medium-grained, orange brown, slightly moist, moderately dense. 25.0 - 47.0 ft. Drive Weight = 2,577 lbs.				
						continued.				

## SAMPLE TYPES:

- ☒ DRIVE (RING) SAMPLE  
☐ SPT (SPLIT SPOON) SAMPLE  
☐ BULK SAMPLE    ☐ TUBE SAMPLE

☒ GROUNDWATER



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PLATE A-5

# GEOTECHNICAL BORING LOG

SHEET 3 OF 3

PROJECT NO. 400735  
 DATE STARTED 07/19/00  
 DATE FINISHED 07/19/00  
 DRILLER Ledezma Drilling  
 TYPE OF DRILL RIG Bucket Auger

PROJECT NAME Rottman/Pankey Parcels  
 GROUND ELEV. 362.0  
 GW DEPTH (FT)  
 DRIVE WT.  
 DROP  
 BORING DESIG. BA-5  
 LOGGED BY PDT

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOW COUNT	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT- URATION (%)	OTHER TESTS
310						<u>TERRACE DEPOSIT</u> (Qt): Continued; SILTY SAND, fine- to medium-grained, orange brown, moist, medium dense; some coarse sand; common fine and coarse angular to subrounded gravel (Kgb clasts).				
55					SP	@ 54.0 ft. GRAVELLY SAND, fine- to coarse-grained, brownish gray, very moist, medium dense; some silt.				
						▼ @ 56.0 ft. water.				
305						@ 57.0 ft. difficult digging. @ 58.0 ft. refusal. 48.0 - 58.0 ft. Drive Weight = 1,648 lbs.				
						REFUSAL @ 58.0 FT. WATER AS NOTED CAVING AS NOTED				

**SAMPLE TYPES:**

- ☐ DRIVE (RING) SAMPLE  
☐ SPT (SPLIT SPOON) SAMPLE  
☐ BULK SAMPLE    ☐ TUBE SAMPLE

▼ GROUNDWATER



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**PLATE A-5**

# GEOTECHNICAL BORING LOG

SHEET 1 OF 2

PROJECT NO. 400735  
 DATE STARTED 07/19/00  
 DATE FINISHED 07/19/00  
 DRILLER Ledezma Drilling  
 TYPE OF DRILL RIG Bucket Auger

PROJECT NAME Rottman/Pankey Parcels  
 GROUND ELEV. 395.0  
 GW DEPTH (FT)  
 DRIVE WT.  
 DROP

BORING DESIG. BA-6  
 LOGGED BY PDT

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOW COUNT	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT- URATION (%)	OTHER TESTS
395					SM	<b>TERRACE DEPOSIT (Qt):</b> SILTY SAND, fine- to medium-grained, light orange brown, slightly moist, medium dense; common coarse sand; minor visible porosity; clay films on angular blocky ped faces; minor gravel.				
5	390	D	9			@ 5.0 ft. SILTY SAND, fine- to medium-grained, orange brown, slightly moist, medium dense; common coarse sand; minor pinhole porosity; minor carbonates; clay films on angular blocky ped faces.	3.8	127	31	
					SM	@ 7.0 ft. 0.5 ft. thick cobble layer, horizontal; non-cohesive sand matrix; carbonate content increases; minor clay films on moderately blocky ped faces.				
10	385									
15	380	D	6			@ 15.0 ft. SILTY SAND, fine- to medium-grained, orange brown, slightly moist, medium dense; trace of coarse sand; trace of gravel; minor pinhole porosity; rare carbonates; minor clay films on grains.	4.7	114	26	
						@ 17.5 ft. increase in coarse sand.				
20	375					@ 21.0 ft. orange; silt content increases.				
						0.0 - 24.0 ft. Drive Weight = 3,548 lbs. continued.				
370										

**SAMPLE TYPES:**

- ☒ DRIVE (RING) SAMPLE  
☐ SPT (SPLIT SPOON) SAMPLE  
☐ BULK SAMPLE    ☐ TUBE SAMPLE

▼ GROUNDWATER



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**PLATE A-6**

# GEOTECHNICAL BORING LOG

SHEET 2 OF 2

PROJECT NO. 400735  
 DATE STARTED 07/19/00  
 DATE FINISHED 07/19/00  
 DRILLER Ledezma Drilling  
 TYPE OF DRILL RIG Bucket Auger

PROJECT NAME Rottman/Pankey Parcels  
 GROUND ELEV 395.0  
 GW DEPTH (FT)  
 DRIVE WT  
 DROP  
 BORING DESIG. BA-6  
 LOGGED BY PDT

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOW COUNT	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT. URATION (%)	OTHER TESTS
370		D	17			<p><b>TERRACE DEPOSIT (Qt):</b> Continued; SILTY SAND, fine- to medium-grained, grayish orange brown, slightly moist, dense; minor carbonates; some coarse sand; some Kgb gravel.</p>	6.6	121	45	
30	365					<p>@ 30.0 ft. gravel content increases; difficult digging.</p> <p>@ 32.0 ft. refusal. 25.0 - 32.0 ft. Drive Weight = 2,577 lbs.</p>				
						<p>REFUSAL @ 32.0 FT. NO WATER, NO CAVING</p>				


**SAMPLE TYPES:**

☐ DRIVE (RING) SAMPLE

☐ SPT (SPLIT SPOON) SAMPLE

☐ BULK SAMPLE    ☐ TUBE SAMPLE

☒ GROUNDWATER



**PACIFIC SOILS ENGINEERING, INC.**  
 7715 Convoy Court, San Diego, CA 92111  
 (858) 560-1713

**PLATE A-6**



# GEOTECHNICAL BORING LOG

SHEET 1 OF 1

PROJECT NO. 400735  
 DATE STARTED 07/19/00  
 DATE FINISHED 07/19/00  
 DRILLER Ledezma Drilling  
 TYPE OF DRILL RIG Bucket Auger

PROJECT NAME Rottman/Pankey Parcels  
 GROUND ELEV. 425.0  
 GW DEPTH (FT)  
 DRIVE WT.  
 DROP  
 BORING DESIG. BA-7  
 LOGGED BY PDT

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOW COUNT	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT. URATION (%)	OTHER TESTS
425					SM	<p><b>TERRACE DEPOSIT (Qt):</b> SILTY SAND, fine- to medium-grained, dark reddish brown, dry, dense; minor visible porosity; clay films on angular blocky ped faces.</p> <p>@ 2.0 ft. gravelly; difficult digging; began using ripper.</p> <p>@ 3.0 ft. began using core barrel (boulder or Kgb contact??).</p> <p>@ 3.5 ft. refusal.</p> <p>0.0 - 3.5 ft. Drive Weight = 3,548 lbs.</p> <p>REFUSAL @ 3.5 FT.</p> <p>NO WATER, NO CAVING</p>				


**SAMPLE TYPES:**

☐ DRIVE (RING) SAMPLE

☐ SPT (SPLIT SPOON) SAMPLE

☐ BULK SAMPLE    ☐ TUBE SAMPLE

☒ GROUNDWATER



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**PLATE A-7**

# GEOTECHNICAL BORING LOG

SHEET 1 OF 1

PROJECT NO. 400735  
DATE STARTED 07/19/00  
DATE FINISHED 07/19/00  
DRILLER Ledezma Drilling  
TYPE OF DRILL RIG Bucket Auger

PROJECT NAME Rottman/Pankey Parcels  
GROUND ELEV. 460.0  
GW DEPTH (FT)  
DRIVE WT.  
DROP  
BORING DESIG. BA-8  
LOGGED BY PDT

DEPTH (Feet)	ELEV	SAMPLE TYPE	BLOW COUNT	LITHOLOGY	GROUP SYMBOL	GEOTECHNICAL DESCRIPTION	MOISTURE CONT (%)	DRY (pcf) DENSITY	SAT. URATION (%)	OTHER TESTS
460					SM	<b>TERRACE DEPOSIT</b> (Qt): SILTY SAND, fine- to medium-grained, reddish brown, dry, dense; common coarse sand; pinhole porosity.				
5	455	B D	2 - bouncing (partial recovery)			<b>GABBROIC ROCK</b> (Kgb): medium sand to gravel size grains, dark gray, slightly moist, soft; highly weathered; some fine sand.	4.0	100	16	
10	450					@ 10.0 ft. slightly moist, soft to moderately hard; coarse sand and gravel size grains; friable clasts; mafic; weathered; difficult digging - began using rippers.				
15	445					@ 17.0 ft. refusal. 0.0 - 17.0 ft. Drive Weight = 3,548 lbs.  REFUSAL @ 17.0 FT. NO WATER, NO CAVING				

## SAMPLE TYPES:

- ☒ DRIVE (RING) SAMPLE  
☐ SPT (SPLIT SPOON) SAMPLE  
☐ BULK SAMPLE    ☐ TUBE SAMPLE

▼ GROUNDWATER



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PLATE A-8

Work Order 400735

August 15, 2000

Work Order 400735

Date Excavated 07/25/00

Excavated by PDT

Equipment Ford 755 Extendahoe w/ 24" Bucket

**TABLE I**

**LOG OF TEST PITS**

Test Pit No.	Depth (ft.)	USCS	Description
TP-1	0.0 – 20.0	SM	<b><u>ALLUVIUM</u></b> (Qal): SILTY SAND, fine- to medium-grained, medium brown, dry, loose; trace of coarse sand; annual grasses @ 4.0 ft. light reddish brown to light orange brown. @ 10.0 ft. slightly moist, @ 12.0 ft. moderately dense; visible 1/8 inch porosity; easy digging.  TOTAL DEPTH 20.0 FT. NO WATER, NO CAVING
TP-2	0.0 – 3.0	SM	<b><u>TOPSOIL</u></b> : SILTY SAND, fine- to medium-grained, gray orange brown, slightly moist to moist, moderately dense; trace of coarse sand; micaceous; no porosity. @ 1.0 ft. becomes reddish brown.
	3.0 – 15.0		<b><u>GABBROIC ROCK</u></b> (Kgb): yellow brown phaneritic, fine to medium grained; hornblende gabbro; soft; deeply weathered; some plagioclase altered to clay. @ 4.0 ft. grayish yellow brown. @ 5.5 ft. mottled black and gray and yellowish dark orange; micaceous; some friable cobble sized corestones in deeply weathered matrix; easy digging.  TOTAL DEPTH 15.0 FT. NO WATER, NO CAVING

August 15, 2000

**TABLE I** cont.**LOG OF TEST PITS**

Test Pit No.	Depth (ft.)	USCS	Description
TP-3	0.0 – 3.5	SM	<b><u>ARTIFICIAL FILL – UNDOCUMENTED</u></b> (afu): SILTY SAND, fine- to medium-grained, medium brown, moist, moderately dense; trace of coarse sand; micaceous; granular.
	3.5 – 14.0		<b><u>GABBROIC ROCK</u></b> (Kgb): mottled gray and white, phaneritic fine to medium grained hornblende gabbro; some plagioclase altered to clay; minor friable corestones in deeply weathered matrix.  TOTAL 14.0 FT. NO WATER, NO CAVING
<hr/>			
TP-4	0.0 – 2.0	SM	<b><u>TOPSOIL:</u></b> SILTY SAND, fine- to medium-grained, gray brown, moist, moderately dense to dense; trace of coarse sand; micaceous.
	2.0 – 5.0	SC	<b><u>GABBROIC ROCK</u></b> (Kgb): mottled black, pale green and gray phaneritic medium grained hornblende gabbro; abundant plagioclase altered to clay; deeply weathered. @ 4.0 ft. moderately hard; still excavatable.  TOTAL DEPTH 5.0 FT. NO WATER, NO CAVING
<hr/>			
TP-5	0.0 – 3.0		<b><u>GABBROIC ROCK</u></b> (Kgb): mottled black and gray phaneritic medium grained hornblende gabbro; some plagioclase altered to clay; corestones in weathered matrix.  TOTAL DEPTH 3.0 FT. NO WATER, NO CAVING

August 15, 2000

**TABLE I** cont.**LOG OF TEST PITS**

Test Pit No.	Depth (ft.)	USCS	Description
TP-6	0.0 – 6.0		<p><b><u>GABBROIC ROCK</u></b> (Kgb): brownish gray, phaneritic medium grained hornblende gabbro; soft; deeply weathered some plagioclase altered to clay.  @ 3.0 ft. becomes gray, moderately hard; friable.</p> <p>TOTAL DEPTH 6.0 FT. NO WATER, NO CAVING</p>
TP-7	0.0 – 6.5	SM	<p><b><u>TERRACE DEPOSIT</u></b> (Qt): SILTY SAND, fine- to medium-grained, dark reddish brown, slightly moist, dense; some coarse sand; visible porosity.  @ 2.5 ft. red orange brown; minor porosity; clay films on angular blocky ped faces.</p>
	6.5 – 10.0		<p><b><u>GABBROIC ROCK</u></b> (Kgb): yellowish brown phaneritic medium grained hornblende gabbro, soft; deeply weathered.</p> <p>TOTAL DEPTH 10.0 FT. NO WATER, NO CAVING</p>
TP-8	0.0 – 2.5	SC	<p><b><u>TOPSOIL</u></b>: CLAYEY SAND, fine- to medium-grained, dark reddish brown, slightly moist, dense; common coarse sand; non-porous; annual grasses; clay films on angular blocky ped faces; rare Kgb boulder.</p>
	2.5 – 4.5		<p><b><u>GABBROIC ROCK</u></b> (Kgb): mottled black, gray and orange phaneritic medium grained hornblende gabbro; soft; deeply weathered.  @ 4.0 ft. becomes moderately hard.</p> <p>TOTAL DEPTH 4.5 FT. NO WATER, NO CAVING</p>

August 15, 2000

**TABLE I** cont.**LOG OF TEST PITS**

Test Pit No.	Depth (ft.)	USCS	Description
TP-9	0.0 – 2.5	SM	<b><u>TERRACE DEPOSIT</u></b> (Qt): COBBLEY SILTY SAND, fine- to medium-grained, slightly moist, moderately dense; some coarse sand; visible porosity; annual grasses at surface.
	2.5 – 4.0		<b><u>GABBROIC ROCK</u></b> (Kgb): mottled black, gray and light orange phaneritic fine to medium grained hornblende gabbro; corestones in friable weathered matrix.
			TOTAL DEPTH 4.0 FT. NO WATER, NO CAVING
TP-10	0.0 – 2.0	SM	<b><u>TOPSOIL</u></b> : SILTY SAND, fine-to medium-grained, dark orange brown, dry, moderately dense; cobbly; common Kgr clasts.
		SC	@ 1.5 ft. COBBLY CLAYEY SAND, fine-grained; red brown, slightly moist, moderately dense; common coarse sand; Kgr clasts; clay films on angular blocky ped faces.
	2.0 – 3.5		<b><u>GABBROIC ROCK</u></b> (Kgb): mottled orange and gray phaneritic medium to coarse grained hornblende gabbro; corestones in friable weathered matrix.
			TOTAL DEPTH 3.5 FT. NO WATER, NO CAVING

August 15, 2000

**TABLE I** cont.**LOG OF TEST PITS**

Test Pit No.	Depth (ft.)	USCS	Description
TP-11	0.0 – 3.5	SM	<b><u>TERRACE DEPOSIT</u></b> (Qt): SILTY SAND, fine- to medium-grained, medium brown, dry, medium dense; visible porosity; blocky structure; micaceous; some coarse sand; granular. @ 1.0 ft. becomes slightly moist.
		SC	@ 3.0 ft. CLAYEY SAND, fine- to medium-grained, dark reddish brown, slightly moist, dense; some coarse sand; trace of porosity; clay films on angular blocky ped faces. @ 3.5 ft. refusal.  REFUSAL @ 3.5 FT. NO WATER, NO CAVING
<hr/>			
TP-12	0.0 – 1.0	SM	<b><u>TOPSOIL</u></b> : SILTY SAND, fine- to medium-grained, medium brown, dry, dense; common coarse sand; visible porosity.
	1.0 – 10.0	SM	<b><u>TERRACE DEPOSIT</u></b> (Qt): SILTY SAND, fine- to medium-grained, dark reddish brown, slightly moist, dense; some coarse sand; minor porosity.
		SC	@ 3.0 ft. CLAYEY SAND, fine- to medium-grained, dark orange brown, slightly moist, dense; some coarse sand; minor porosity; clay films on angular blocky ped faces and grains. @ 8.0 ft. very dense.  REFUSAL @ 10.0 FT. NO WATER, NO CAVING

August 15, 2000

**TABLE I** cont.

**LOG OF TEST PITS**

Test Pit No.	Depth (ft.)	USCS	Description
TP-13	0.0 – 7.5	SM	<p><b><u>TERRACE DEPOSIT</u></b> (Qt): SILTY SAND, fine- to medium-grained, brown, dry, medium dense; common coarse sand; visible porosity; mica- ceous.</p> <p>@ 3.0 ft. grayish brown, dense; rare pore spaces.</p> <p>@ 7.0 ft. some carbonates and clay films on angular blocky ped faces.</p> <p>REFUSAL @ 7.5 FT. NO WATER, NO CAVING</p>
TP-14	0.0 – 20.0	SM	<p><b><u>ALLUVIUM</u></b> (Qal): SILTY SAND, fine- to me- dium-grained, brown, dry, medium dense; some coarse sand.</p> <p>@ 1.0 ft. slightly moist, loose to moderately dense.</p> <p>@ 12.0 ft. light reddish brown, slightly moist to moist, loose; less silt; granular.</p> <p>@ 15.0 ft. moist to very moist.</p> <p>@ 17.0 ft. fine- to medium-grained, dark brown, <u>wet</u>.</p> <p>@ 19.0 ft. <u>saturated</u>.</p> <p>TOTAL DEPTH 20.0 FT. <u>WATER AS NOTED</u> NO CAVING</p>



August 15, 2000

**TABLE I** cont.**LOG OF TEST PITS**

Test Pit No.	Depth (ft.)	USCS	Description
TP-15	0.0 – 7.5	SM	<b><u>ALLUVIUM</u></b> (Qal): SILTY SAND, fine- to medium-grained, brown, dry, moderately dense; some coarse sand; porous. @ 1.0 ft. slightly moist, loose.
		SP	@ 3.0 ft. SAND, medium- to coarse-grained, gray brown, dry to slightly moist, medium dense; some fine sand; some silt; no porosity; very friable.
		SM	@ 5.0 ft. SILTY SAND, fine-grained, medium brown, slightly moist, medium dense; some medium sand.
	7.5 – 9.0	SC	<b><u>TERRACE DEPOSIT</u></b> (Qt): CLAYEY SAND, fine- to medium-grained, reddish brown, moist, medium dense; trace of coarse sand; minor porosity; clay films on grains and angular blocky ped faces. @ 14.0 ft. trace of gravel.
		SP	@ 18.0 ft. SAND, fine- to coarse-grained, reddish brown, very moist, medium dense; some silt; grain size increases.
		TOTAL DEPTH 9.0 FT. NO WATER, NO CAVING	
-----			
TP-16	0.0 – 6.5	SM	<b><u>ALLUVIUM</u></b> (Qal): SILTY SAND, fine- to medium-grained, light brown, dry, very loose.
		SC	@ 0.5 ft. CLAYEY SAND, blackish dark brown, slightly moist.
			@ 1.5 ft. <u>wet</u> .
			@ 4.5 ft. blackish brown, <u>saturated</u> , strong organic odor, <u>minor caving</u> .
TOTAL DEPTH 6.5 FT. <u>WATER AS NOTED</u> <u>CAVING AS NOTED</u>			